

REMARKS/ARGUMENTS

This is a preliminary amendment in a RCE application. Reconsideration of this application, as amended and in view of the following remarks, is respectfully requested. Claims 1-7 originally appeared in the application.

Applicants have cancelled claims 3 and 7. The claims presented for examination are: claims 1-2 and 4-6.

35 U.S.C. §102 Rejection – Bienert Reference

In numbered paragraphs 5-8 of the Office Action mailed August 29, 2006, claims 1-2 and 4-6 were rejected under 35 U.S.C. §102(b) as being anticipated by the Bienert reference (US Patent Application No. 2001/0019845).

Applicants' Claimed Invention

Applicants' claimed invention is illustrated in Applicants' original drawing FIG. 1 reproduced below.

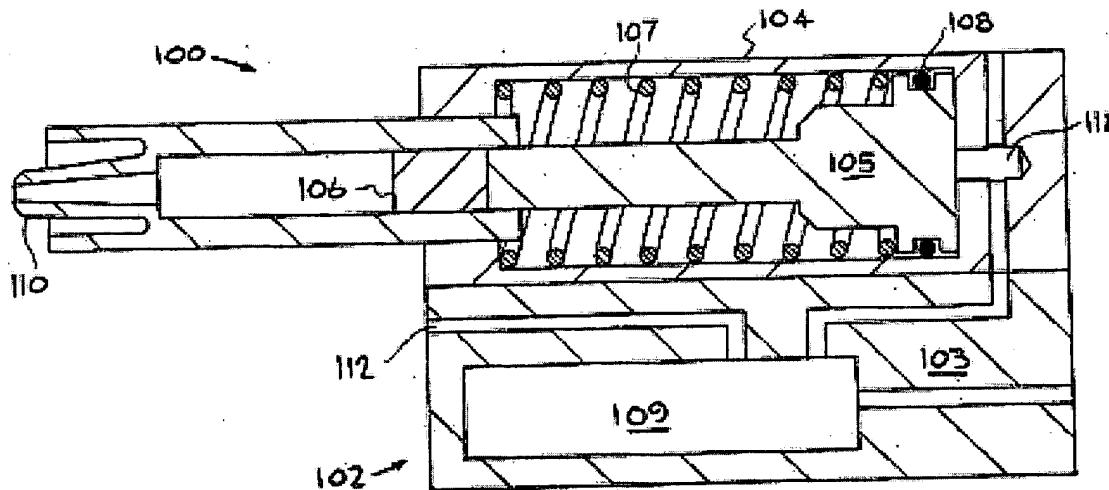


FIG. 1

Portions of Applicants' original specification describe FIG. 1, as follows:

[0016] Referring now to FIG. 1, a pneumatically actuated dispensing system constructed in accordance with the presenting invention is illustrated. The dispensing system is designated generally by the reference numeral 100. The dispensing system 100 addresses the increasing need for systems that perform biological or chemical processing and/or analysis. These systems can be complex and can require the dispensing or manipulation of several different liquids or gases for a given process and/or analysis. The dispensing system 100 has uses in systems for performing biological or chemical analysis. Examples include bio-warfare terrorism agent detection, automated laboratory biological and chemical analysis, automated laboratory biological processes, and automated laboratory chemical processes. There is also a growing need for compact systems for automated biological or chemical processes performed in the laboratory and industry. The dispensing system 100 addresses the increasing need for compact systems that are portable or remotely operated and perform biological or chemical processing and/or analysis.

[0017] The dispensing system 100 comprises a dispensing component 101, an actuator component 102, and a valving component 103. These components will be described in greater detail below. The dispensing system 100 provides a precise amount of fluid for biological or chemical processing and/or analysis. The dispensing system 100 can be used as an individual dispensing pump to dispense one fluid or gas or can be arranged in an array of dispensing pumps to dispense several or many different liquids or gases. Each individual dispensing system can dispense an appropriate preselected precise volume of liquid or gas.

[0018] The Dispensing Component 101--In its simplest form the dispensing component 101 comprises a tube 104 with a rod or plunger 106 and piston 105 that slide down the inside diameter of the tube 104. A spring 107 biases the piston with its associated plunger upward in the tube 104. An "O" ring 108 provides a sliding seal between the piston 105 and the tube 104. The piston 105 is propelled downward by increasing the pressure on one side of the piston 105 with respect to the spring force on the other. This is accomplished by the introduction of pneumatic pressure to one side of the piston 105 through the chamber 111. The piston 105 is attached to the plunger 106 of the dispensing component 101 by a rod or other component thereby creating movement of the plunger 106 with the piston 105. A connection 110 on the tube 104 provides the means for dispensing fluids or gases to the desired unit in the particular process and/or analysis involved. The connection 110 transfers a precise amount of fluid from the tube 104 for biological or chemical processing and/or analysis.

[0022] The Actuator Component 102--The actuator component 102 comprises a solenoid valve 109 with an internal solenoid piston sliding in a cylinder. The solenoid piston has a gas tight sliding seal to the walls of the cylinder. The solenoid piston can be either

pneumatically powered in both directions by switching the pressure from one side of the solenoid piston to the other and venting the opposite side. It can also be pneumatically powered in one direction and returned by the force of a mechanical spring. A source of pneumatic pressure is introduced through the passage connected to the solenoid valve 109.

Bienert Reference Does Not Anticipate Claims 1-2 and 4-6

Applicant has amended independent claims 1 and 4.

The Bienert reference (1) fails to include elements of Applicants' amended independent claims 1 and 4 and (2) includes elements in addition to the specific combination of elements of Applicants' amended independent claims 1 and 4.

The Bienert Reference

Paragraph [0046] of the Bienert reference states:

[0046] In FIG. 3 partial views of details relating to how the micropipettes are attached in the mounting block 300 are shown. Each micropipette 252 consists of a cylinder 254 with the pipette tip 253 at one end and the activating pin 255 (end of the pipette piston) at the other end. Inside of the cylinder 254, the pipette piston is retracted by a piston spring between the upper cylinder end and lower piston end. A pin spring 257 slightly biased in the basic position is provided between the end support 256 of the pipette piston 255 and the cylinder 254. In the embodiment of the invention shown on FIG. 3, the cylinders 254 are securely attached to the carrier plate 240. In the basic position, the pipette piston 255 is completely retracted by spring force (arrow F), thereby providing for a large pipetting volume in the cylinder. When the accompanying actuating element is actuated (see FIG. 2), a pneumatic cylinder of the actuating matrix 210 presses an actuating needle 220 to the end support 256. The pneumatic cylinder works against the spring force of the pin spring 257 and the internal piston spring, and pushes the pipette piston 255 toward the pipette tip. When removing the working pressure from the pneumatic cylinder, the pipette piston 255 returns again under the action of the pin and piston springs 257. When the metering head is used as intended, these movements of the pipetting piston 255 between the basic state and the tensioned state are used for taking a sample from a sample container or effecting the corresponding sample release.

A portion of FIG. 2 of the Bienert reference is set out below to help illustrate the Bienert reference device.

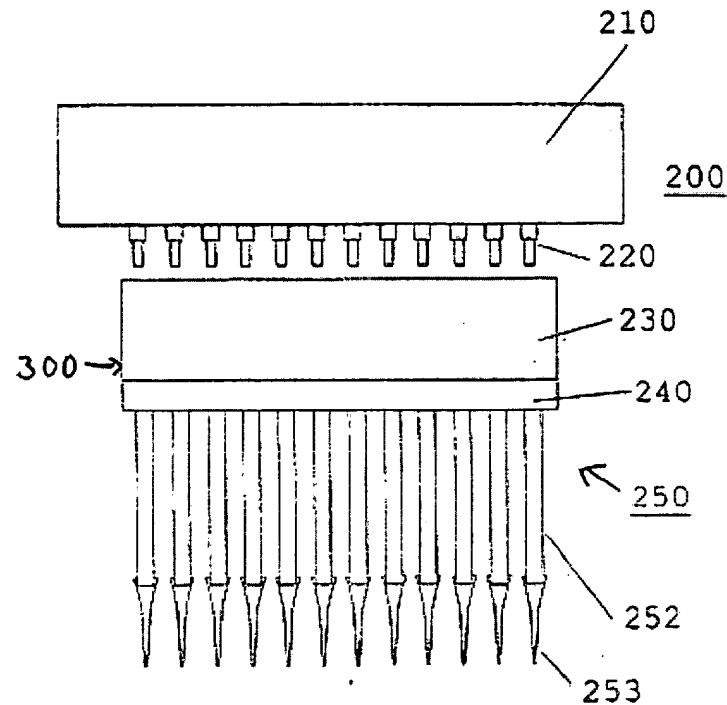


FIG. 2 (Portion)

The Bienert Reference Lacks Elements of Claims 1 and 4

The standard for a 35 U.S.C. §102 rejection is stated in *RCA Corp. v. Applied Digital Systems, Inc.*, 221PQ 385, 388 (d. Cir. 1984) "Anticipation is established only when a single prior art reference discloses, either expressly or under principles of inherency, each and every element of a claimed invention." Applicant points out that the following elements of Applicants' amended independent claims 1 and 4 are not found in the Bienert reference:

"a chamber directly connected to said tube and open to said piston plunger for directing said pneumatic force to said piston plunger," or

"chamber means directly connected to said dispensing means and open to said actuator means for directing said pneumatic force to said actuator means," or

"an actuator operatively connected to said chamber, said tube and piston plunger for providing said pneumatic force to said piston plunger," or

"wherein said actuator has valving operatively connected to said tube and said chamber and operatively connected to said piston plunger, said valving transmitting said pneumatic force to said chamber, said tube and piston plunger," or

"wherein said actuator has valving means for transmitting said pneumatic force to said chamber means and said dispensing means, said valving means operatively connected to said chamber means and said dispensing means."

Since the elements described above are not found in the Bienert reference, the Bienert reference would not support a 35 U.S.C. §102(b) rejection.

The Bienert Reference Includes Additional Elements

The Bienert reference includes many elements in addition to the specific combination of elements of Applicants' amended independent claims 1 and 4. For example, the following elements of the Bienert reference are not found in Applicants amended independent claims 1 and 4:

"pipette piston 255," and

"end support 256," and

"a pneumatic cylinder of the actuating matrix 210 presses an actuating needle 220 to the end support 256," and

"the micropipettes are attached in the mounting block 300," and

"the cylinders 254 are securely attached to the carrier plate 240," and

"When the accompanying actuating element is actuated (see FIG. 2), a pneumatic cylinder of the actuating matrix 210 presses an actuating needle 220 to the end support 256."

Since the Bienert reference includes many elements in addition to the specific combination of elements of Applicants' amended independent claims 1 and 4, the Bienert reference would not support a 35 U.S.C. §102(b) rejection.

Applicants' independent claims 1 and 4 were amended to change the preamble from a "comprising" preamble to a "consisting of" preamble.

A "comprising" preamble is what is known as an open term. In effect, comprising is a shorthand way of saying "including the following elements but not excluding others." For example, a combination "comprising A + B" covers the combination A + B + C.

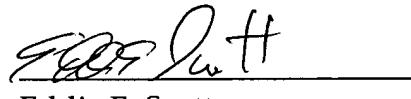
On the other hand, a "consisting of" preamble is a closed term. A combination "consisting of A + B" does not cover the combination A + B + C.

Applicants' invention defined by amended independent claims 1 and 4 provides a specific combination of elements "consisting of" the specific combination of elements enumerated in amended independent claims 1 and 4. This specific combination of elements is not found in the cited Bienert reference. The Bienert reference includes many elements in addition to the specific combination of elements of Applicants' amended independent claims 1 and 4 as described above; therefore, the Bienert reference does not support a 35 U.S.C. §102(b) rejection and should be withdrawn.

SUMMARY

The undersigned respectfully submits that, in view of the foregoing amendments and the foregoing remarks, the rejections of the claims raised in the Office Action dated August 29, 2006 have been fully addressed and overcome, and the present application is believed to be in condition for allowance. It is respectfully requested that this application be reconsidered, that the claims be allowed, and that this case be passed to issue. If it is believed that a telephone conversation would expedite the prosecution of the present application, or clarify matters with regard to its allowance, the Examiner is invited to call the undersigned attorney at (925) 424-6897.

Respectfully submitted,



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Livermore, California
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